SEZIONE DI PERTINENZA: "IVa-Geofisica e Fisica dell'ambiente"

Fault Geometry, Coseismic Slip Distribution and Coulomb Stress Change Associated to the 6 April 2009, Mw 6.3, L'Aquila Earthquake Imaged From Inversion of GPS Displacements

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After the April, 6 2009 M_w=6.3 L'Aquila earthquake, the coseimic deformation has measured by > 70 Global Positioning System (GPS) stations. We use a rectangular uniform-slip dislocation and a constrained, non-linear optimization algorithm, obtaining a rupture occurred on a N129°E $^{-7.4}_{+8.3}$ striking and 50° $^{-4.9}_{+9.1}$ SW-ward dipping normal fault. Our distributed slip model exhibits the highest slip of the order of ~1 m. We do also bootstrap and resolution analysis to quantify goodness of our model. We analyze the Coulomb stress change affected by the major aftershocks, and compare the results obtained from the uniform slip and the heterogeneous slip models.